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ABSTRACT

In organizational settings, research has shown the relationship of task characteristics to attitudes and motivation. This study examines the external validity of the task characteristic-outcome relationship in an educational setting. Subjects were 206 undergraduate psychology students. They were given an inventory of seven task characteristics such as Task Identity, Skill Variety and Autonomy. Using a seven-point scale, they described the extent to which they experienced each one while in school. It was found that the chosen task characteristics are, in general, negatively related to absenteeism and physical and psychological stress. They are also positively related to satisfaction and the desire to stay in school while being completely unrelated to grade point average. According to the canonical correlation analysis, the outcomes best predicted by this set of task characteristics are satisfaction and the desire to stay in school. Task Significance is the task characteristic which is most important to the prediction of these outcomes. (Author/BP)

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The relationship of task characteristics to attitudes, absenteeism, stress and performance among college students

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The task characteristics related to attitudes and motivation in organizational settings are examined through a survey of college students. Task characteristics experienced by students in their course work are found to be related to absenteeism, desire to stay in school, satisfaction with school and physical and psychological stress. Grade point average is not found to be related to these task characteristics. Task Significance, the relevance of school work and its relationship to the well-being of other people, is found to be the most important predictor of student attitudes and behavior.

The relationship of task characteristics to attitudes, absenteeism, stress and performance among college students (7/20/76)

The purpose of this study is to evaluate the importance of characteristics of course structure to the level of absenteeism, stress, performance and attitudes of college students. In organizational settings, research in the area of job design has demonstrated the relationship of task characteristics to performance, absenteeism, turnover and satisfaction (Brief & Aldag, 1975; Hackman & Lawler, 1971). Characteristics of jobs such as the amount of autonomy, variety, performance feedback and task identity, the completion of a meaningful, whole piece of work, has been found to be positively related to motivation and satisfaction (Brief & Aldag, 1975; Hackman & Lawler, 1971). Hackman and Lawler (1971) have termed these four job characteristics "core dimensions" to indicate their importance to employee motivation, performance and attitudes. A theory of motivation has been developed as an explanation of the findings of job design research (Hackman & Oldham, 1975). Briefly, this theory suggests that the task characteristics described as core dimensions effect three critical psychological states leading to the individual's motivation to perform: Experienced meaningfulness, experienced responsibility for work outcomes and knowledge of results. Activation of these three psychological states leads to increased performance, lower absenteeism and turnover and higher satisfaction.

Hackman and Oldham's (1975) theory of motivation is expected to hold for those individuals who value responsibility and challenging work. Research in organizational settings indicates that the relationship of task characteristics to employee attitudes and behavior is moderated by the individual's desire for challenging and interesting work (Brief & Aldag, 1975; Hackman & Lawler, 1971).

Although research on the relationship of task characteristics to attitudes and behavior has focused only on employees in organizational settings, the extension of these relationships to educational settings is relevant to the design of effective learning environments. This study examines the external

validity of the task characteristic--outcome relationship in an educational setting.

If the relationship of task characteristics to outcomes generalizes to educational settings, it is hypothesized that:

(1) Task characteristics will be positively related to performance, satisfaction, and desire to stay in school and negatively related to absenteeism and stress.

(2) The relationship of the core dimensions task identity, autonomy, feedback and variety to these outcomes will be moderated by the desire for challenging work. Those individuals higher on the desire for challenging work will demonstrate higher relationships between task characteristics and outcomes than those low on the desire for challenging work.

Method

Subjects

206 undergraduates at the University of California at Berkeley completed questionnaires. Students were sampled from both lower and upper division Psychology courses.

Instruments

(1) To examine the generalizability of task characteristic research to a university setting, a task characteristic inventory was developed specific to a university setting. Using a 7 point scale, students were asked to describe the extent to which they currently experience certain task characteristics while attending school:

(a) Task Identity--the opportunity to complete a meaningful, whole piece of work (3 questions, Cronbach's alpha=.60).

(b) Skill Variety--the opportunity to use a number of skills in doing school work (3 questions, alpha=.60)

(c) Autonomy--the opportunity to make decisions relevant to the type of course work, class structure and grading system (4 questions, alpha=.59)

(d) Feedback--the opportunity to learn how well the student is doing in school (3 questions, alpha=.60)

(e) Dealing with Others--the opportunity to interact with teachers, teaching assistants and other faculty (5 questions, alpha=.66)

(f) Variety--the opportunity to take a wide range of subjects and classes (5 questions, alpha=.66)

(g) Learning--the opportunity to acquire a variety of skills and new information in school (3 questions, alpha=.74)

(h) Task Significance--school work which is important in the broad scheme of things (3 questions, alpha=.63).

In addition to the core dimensions, the task characteristic inventory includes the dimensions Dealing with Others and Task Significance since these are included in the Job Diagnostic Survey developed by Hackman and Oldham (1975).

The dimension of Learning was included because of its apparent relevance as a task characteristic in educational settings. Variety in school work as well as Skill Variety were included in this questionnaire since these dimensions appear to reflect different aspects of school work.

(2) The need growth scale developed by Hackman and Oldham (1975) was employed as a measure of the desire for challenging work since its wording appears not to be organization-specific. In this study, the internal consistency of the scale is .83.

(3) The criterion for performance used in this study was grade point average.

(4) Overall satisfaction with school was measured by the Faces scale (Kunin, 1955).

(5) To measure absenteeism, students were asked to indicate the number of times they had missed a class during the quarter.

(6) The physical and psychological stress measures developed by Patchen (1970) were employed with internal consistency reliabilities of .64 and .81 respectively. The physical stress measure asks the respondent to indicate how often she or he experiences headaches, sleeplessness, upset stomaches and gas. The psychological stress measure asks subjects to indicate how often they experience fatigue or tension during the school day.

(7) The desire to stay in school was used as a possible indicator of potential turnover. It was measured by two questions (r=.58):

If, for some reason, I had to quit school for a while, I would return to this school.

If I was completely free to choose, I would continue to attend this school.

Analyses

Hypothesis 1 was tested by correlating the task characteristics with outcomes. Canonical correlation analysis was used to determine which task characteristics are important to the prediction of student attitudes and behavior.

Hypothesis 2 was tested by splitting the sample into the top and bottom 1/3 on the variable Need Growth. The correlations of the task characteristics with the outcomes were then calculated.

Results

Examination of the correlations between the task characteristics and the outcomes (Table 1) indicates that task characteristics are in general negatively related to absenteeism and physical and psychological stress. They are also positively related to satisfaction and the desire to stay in school while being completely unrelated to grade point average. According to the canonical correlation analysis (Table 2) the outcomes best predicted by this set of task characteristics are satisfaction and the desire to stay in school. Task Significance is the task characteristic which is most important to the prediction of these outcomes. This finding is particularly interesting since Task Significance has only recently been considered as potentially related to attitudes and behavior (Hackman & Oldham, 1975). Interestingly, none of the core dimensions appears to be as important to the prediction of the dependent variables as Task Significance.

Insert Tables 1,2 and 3 about here

In organizational settings, Need Growth has been found to moderate the relationship between the core dimensions and employee behavior and attitudes. This finding is not confirmed in this student sample (Table 3). It should be noted, however, that the mean and standard deviation for Need Growth in this sample were 6.04 and .98 respectively on a scale ranging from 1 to 7. Thus, this sample of students is fairly homogeneous in the level of Need Growth reported which explains the less consistent differences in correlations between the high and low Need Growth individuals than are usually found.

Discussion

The hypothesized relationships between the task characteristics and student attitudes and levels of stress and absenteeism are supported. Task characteristics are positively related to students' satisfaction with school and their desire to stay in school; task characteristics are also negatively related to physical and psychological stress and absenteeism. The level of Task Significance, the perceived importance of school work to the well-being of other people and its importance in the "broad scheme of things" is the most important predictor of the students' desire to stay in school and their satisfaction with school. Although the core dimension Skill Variety, use of a number of skills and abilities, appears to be highly related to satisfaction, desire to stay in school and absenteeism, Task Significance appears to be more consistently related with the outcomes examined here than any other task characteristic. Since Task Significance is not an intrinsic characteristic of a task but a perception based on the values of the individual, the importance of Task Significance in this study argues for emphasis on subject matter and class projects which are perceived to be relevant by the student.

Grade point average was unrelated to the task characteristics examined here. This finding is most likely due to the great influence of course work from previous school terms on a student's current grade point average. A measure of the student's current performance in school may have been a more adequate measure; although Goldman and Slaughter (1976) have found that grade point average is difficult to predict due to variations in standards and criteria used by teachers.

No evidence was found in this study to support the hypothesis that Need Growth moderates the relationship between task characteristics and outcomes. Although inconsistent with findings in organizational settings where employees differ greatly in values and age, this result is consistent with the findings of Yankelovich (1972) that the vast majority of college students place

high value on challenging work and view school work as a means of self-expression. Thus the failure of Need Growth to moderate the relationship between the task characteristics and outcomes may be due to the homogeneity of college students on Need Growth.

In examining the relationships between the task characteristics and outcomes, it is evident that satisfaction with school and the desire to stay in school are consistently related with virtually all the task characteristics examined here. Since both these measures are affective as opposed to behavioral, these relations indicate that task characteristics are related to student attitudes toward school. Physical and psychological stress measures are more behavioral in that both are based on the frequency of stress symptoms such as tension, fatigue and sleeplessness. Autonomy, the opportunity to make decisions on matters such as grading and the scheduling of tests and assignments, and Dealing with Others, the opportunity to interact with professors and teaching assistants, are negatively related to both types of stress as is Task Significance. These relationships indicate the potential of increased student influence over course structure and the availability of faculty for reducing the anxiety which may inhibit learning. The perceived relevance of school work is also related to the amount of stress students experience in school. Absenteeism is related to Skill Variety, the use of a number of different skills, Feedback on school performance and Task Significance which is consistent with the findings of job design research.

Results of this study indicate that task characteristics which are important to attitudes and behavior in organizational settings are also related to attitudes and behaviors of college students. Task characteristics are related to the absenteeism, stress, satisfaction and desire to stay in school of college students. This relationship is indicative of the value of designing courses and class projects which facilitate the use of a variety of skills, provide clear information on performance and provide faculty who are available for consultation and interaction

The relationship of task characteristics with students. In addition, concern for the meaningfulness of course assignments and subject matter, the relationship of course material and assignments to the well-being of other people and their relevance to the student's values, may be an important means of increasing attendance and favorable attitudes toward school while reducing both physical and psychological stress among college students.

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Table 1

Correlations of Task Characteristics with Outcomes

	Physical Stress	Psychological Stress	Desire to Stay in School	GPA	Absenteeism	Satisfaction
Autonomy	-.13*	-.14*	.10	-.07	-.05	.12*
Skill Variety	.07	-.06	.33***	.06	-.25***	.21**
Task Identity	-.16**	-.08	.27***	.11	-.08	.15*
Feedback	-.11	-.09	.18**	.11	-.15*	.18**
Variety	-.05	-.05	.19**	.01	.00	.12*
Task Significance	-.12*	-.17**	.41***	-.04	-.12*	.41***
Dealing with Others	-.15*	-.22***	.18**	.10	-.04	.25***
Learning	-.05	-.11	.32***	.00	-.07	.28***

* $p < .05$

** $p < .01$

*** $p < .001$

Table 2

Canonical Correlation Analysis[1]

Function	Canonical Correlation	Chi-Square	D.F.	Significance
1	.56	97.5	48	.0009

Coefficients for Task Characteristics

Autonomy	-.02
Variety	.26
Skill Variety	-.10
Task Identity	-.25
Task Significance	-.73
Dealing with Others	-.16
Learning	-.23
Feedback	.01

Coefficients for the Outcomes

GPA	-.02
Absenteeism	.18
Physical Stress	-.02
Psychological Stress	.01
Satisfaction	-.50
Desire to Stay in School	-.62

[1] Results of the Canonical Correlation Analysis indicated only 1 canonical variate significant at the .05 level.

Table 3

Correlations between Task Characteristics and Outcomes for High and Low Need Growth Groups

HIGH NEED GROWTH

Core Dimensions	Physical Stress	Psychological Stress	Desire to Stay in School	GPA	Absenteeism	Satisfaction
Autonomy	- 33**	-.33	.16	.04	.00	.23*
Skill Variety	-.10	-.04	.31**	.14	-.12	.13
Task Identity	-.28*	-.14	.28*	.08	.07	.19
Feedback	-.29*	-.26*	.23*	.11	-.01	.34**

Dealing with Others	-.12	-.21*	.11	.14	.05	.20
Variety	-.19	-.12	.36***	.02	.18	.15
Task Significance	-.11	-.15	.36***	.10	.03	.33**
Learning	-.10	-.08	.38***	.00	.08	.25*

LOW NEED GROWTH

Core Dimensions	Physical Stress	Psychological Stress	Desire to Stay in School	GPA	Absenteeism	Satisfactio
Autonomy	-.07	-.01	.00	-.18	.06	.09
Skill Variety	-.13	-.07	.34**	.04	-.20	.26*
Task Identity	-.13	-.24*	.27*	.26*	-.19	.16
Feedback	-.22*	-.04	.16	.06	-.14	.12

Dealing with Others	-.38**	-.28*	.10	-.07	-.10	.29**
Variety	.13	-.13	-.05	.06	-.04	-.08
Task Significance	-.22*	-.22*	.46***	-.12	-.13	.44***
Learning	-.03	-.31**	.15	.08	.02	.29

* $p < .05$

** $p < .01$

*** $p < .001$